

**SYSTEM AND METHOD FOR PROTECTING MULTIPLEXED ELEMENTS SHARING A SINGLE ELECTRICAL LINE**

**ABSTRACT OF THE INVENTION**

5 . A system and method are presented for protecting multiplexed elements sharing a single electrical line. The system includes a plurality of elements connected to the electrical line, a switch connecting, to the electrical line, a first element in the plurality of elements, and a detection sub-system. The detection sub-system  
10 evaluates a signal on the electrical line. A detection sub-system control output supplies control signals in response to comparing a signal voltage level to a compatibility threshold value. The switch operates in response to accepting the control signals. The compatibility threshold value can be selected to equal the maximum  
15 voltage compatible with the first element. In some cases, the switch is a transistor.